**ACADEMIC DISCIPLINE OVERVIEW**

1. **Program data**

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| **1.1.** | **GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY IASI** | | | | | | | |
| **1.2.** | **FACULTY OF MEDICAL BIOENGINEERING** | | | | | | | |
| **1.3.** | **PROGRAMME:** Physio-kinetotherapy and rehabilitation | | | | | | | |
| **1.4.** | **STUDY FIELD:** Health | | | | | | | |
| **1.5.** | **STUDY CYCLE**: UNDERGRADUATE | | | | | | | |
| **1.6.** | **STUDY PROGRAMME:** INENGLISH | | | | | | | |
| 1. **Subject data** | | | | | | | | |
| **2.1.** | **Subject: Rehabilitation in cardiovascular and respiratory diseases / RE1304** | | | | | | | |
| **2.2.** | **Module leader: Lecturer Cojocaru Clementina** | | | | | | | |
| **2.3.** | **Seminar leader: Lecturer Cojocaru Clementina** | | | | | | | |
| **2.4. Year of study** | | **3** | **2.5. Semester in which is taught** | **1** | **2.6. Evaluation type** | Exam | **2.7. Subject status** | Mandatory |

1. **Estimated total time (hours/semester of didactic activity)**

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| **3.1.Number of hours / week** | 4 | **3.2. Courses number of hours / week** | 2 | **3.3.Seminar / l practical classes** | 2 |
| **3.4. Total number of learning hours** | 56 | **3.5. Courses** | 28 | **3.6. Seminar / practical classes** | 28 |
| **3.7. Distribution of the available time** | | | | | Hours |
| **Study based on the manual, lecture support, bibliography and hand notes** | | | | | 12 |
| **Supplementary documentation in the library, using specialised platforms via internet and by field work** | | | | | 14 |
| **Preparation for seminars / practical classes, study themes, reviews, portofolio, and essays** | | | | | 10 |
| **Tutorship** | | | | |  |
| **Examinations** | | | | | 8 |
| **Other activities** | | | | |  |
| **3.8. Total hours of individual study** | | | | | 44 |
| **3.9. Total hours pes semester** | | | | | 100 |
| **3.10. Number of credits** | | | | | 4 |

1. **Prerequisites (as needed)**

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| **4.1 Curriculum** | **Explorations and evaluation methods in medical recovery, Internal medicine elements** |
| **4.2 Skills** | **Knowledge of methods, techniques of paraclinical exploration for evaluation of the degree of integration, adaptation of human biosystem in diverse circumstances. Knowledge of physiological and physiopathological mechanisms of the main medical conditions, especially cardiovasculary ones, and their identification for the use of adequate cardiovascular rehabilitation treatment.** |

1. **Conditions (as needed)**

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| **5.1. Lectures** | **Video logistical support** |
| **5.2. Seminars/Laboratories** | **Students would have the apropriate dressing** |

1. **Specific competences acquired**

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| Professional competences (expressed as knowledge and abilities) | **C1.2 Key concepts on explaining sindroms and/or cardiovasculary and respiratory disease**  **C1.3 Use of kinetotherapy programs associated with functional diagnosis according to doctor’s instructions, achieving secondary prophylaxy, also.**  **C1.4 Use of adequate parameters of techniques requires for increase of articular mobility, muscle force, coordination, equilibrium, improvement of some modified paramters (cardiovascular, respiratory, neuromuscular etc.)**  **C1.5 Development and implementation of new kinetotherapy protocols**  **C2.1 Defining the general and local effects of medical massage, depiction of main massage techniques for different body areas along with indications and contraindications**  **C2.2 Basic knowledge for explaining and interpreting the opportunity of some kinetotherapy programs adapted to the region and pathology**  **C2.3 Implementation of massage protocols according to the region and pathology**  **C2.4 Analysis of intensity and duration paramters according to presented pathology, checking muscle tone, allergic sensibility, before and after massage.**  **C2.5 Implementation of new massage protocols**  **C3.1 Identification of the physiological mechanisms of thermoreglation, the effect of thermal factors on human organs and systems; identification of hidrotermotherapy techniques along witth indications, contraindications, and precautions.**  **C3.2 Knowledge on preocedures of hidrotermotherapy for a correct selection of therapeutic strategy**  **C3.3 Evaluation and integration of procedures of HHT in the therapeutic strategy according to the presented pathology and its objectives.**  **C3.4 Evaluation of proper parameters in implementation of all forms of HHT establishing opportunities and associations between procedures.**  **C3.5 Development and improvement of new protocols for HHT**  **C4.3 Implementation of electrotherapy, photoptherapy, magnetotherapy, ultrasonotherapy procedures; use of paramenters and of schedule of sessions adapted to pathology and region**  **C4.4 Use of adequate parameters in all forms of electrotherapy, considering analgesic, muscle relaxing effects or the muscle intensity contraction according to applied procedure.**  **C4.5 Implementation of different strategy for elaboration of new protocols of electrotherapy** |
| Transverse competences (of role, of professional development, personal) | **CT1. Identification of objectives, available resources, finalization conditions, stages of implementation, meeting end-lines and associated risks.**  **CT2. Identification of roles and responsabilites in a multidisciplinary team and implementation of efficient social relationships within the team and along with the pacient.** |

1. **Course objectives (as in the cumulated competences chart)**

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| **7.1 General objective of the discipline** | * **Explanation of cardiovasculary and respiratory diseases and sindromes, kinetotherapy programs, hidrothermotherapy, electrotherapy, methods of functional evaluation according to region and type of pathology. Identification of main sign and symptoms of cardiovasculary disease, evaluation of such pacient before and after cardiovasculary and respiratory rehabilitation, participation in some investigations.** * **Interpretation of some functional investigations.** |
| **7.2 Specific objectives** | **- Evaluations and integration of kinetotherapy, hidrothermotherapy, electrotherapy procedures and implementation of adequate scores for initial evaluation and apreciation of functional cardiovasculary and respiratory deficit, to improve the quality of life and evaluation of socio-profesional independence after applied therapy.** |

1. **Contents**

**8. 1. Course**

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|  | **Teaching methods** | **Obs** |
| 1. Cardiovascular recovery- introduction, definition, history, applications. The structure of a cardiovascular recovery program. 2. Natural therapeutic factors in cardiovascular recovery. Effort training – its effects upon effort capacity and cardiac function. Effort testing of a coronary affected patients – significance, indications, methodology, contraindications, incidents 3. Balneofiziokinetotherapy and recovery in ischemic cardiomiopathy and in acute heart failure 4. Balneofiziokinetotherapy and recovery in hipertension and in arrhythmia. Testing of acquired knowledge 5. Balneofiziokinetotherapy and recovery in vavular heart disease 6. Balneofiziokinetotherapy and recovery in heart failure 7. Balneofiziokinetotherapy and recovery in peripheric arteriopathies and in venous diseases. 8. Concepts of structure and physiology of the respiratory system Introductive notions about pulmonary recovery. 9. Balneofiziokinetotherapy and recovery in cronic pulmonary disease with obstructive, restrictive and mixed ventilatory disfunction 10. Pulmonary recovery program (definition, components, infrastructure, facilities, equipments and recovery team). 11. Types of recovery programs, patients selection for program entry, indications and contraindications of pulmonary recovery. 12. Pharmacologic treatment, long term oxigenotherapy, mechanical ventilation at home and pulmonary recovery. Education and treatment of the patient with chronic respiratory disease for ceasing smoking and pulmonary recovery. 13. Pulmonary recovery in asthma. 14. Pulmonary recovery in chronic obstructive pulmonary disease. The benefits and the future of pulmonary recovery of the patients with chronic respiratory diseases. | **Video projection, interactive discussion** | **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours**  **2 hours** |

**8.2. Laboratory**

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| 1. Introductive notions about cardiovascular system. The effects of balneophysiokinetotherapy on heart. Structure of a cardiovascular recovery program Structure of a cardiovascular recovery base, equipment, personnel. 2. Natural and physical therapeutic factors in cardiovascular recovery. Effort training – its effects upon effort capacity and cardiac function. Effort testing of a coronary affected patients – testing conditions, necessary equipment, methodology, incidents, conditions for test cessation 3. Kinetotherapy in ischemic cardiomiopathy and in heart failure. 4. Kinetotherapy in hipertension and in arrhythmia. 5. Kinetotherapy in vavular heart disease and in heart failure. 6. Kinetotherapy and recovery in peripheric arteriopathies and in venous diseases. 7. Balneofiziokinetotherapy before and after surgery. Kinetotherapy after heart transplant and after myocardial revascularization. 8. General information about the mechanics and the physiology of respiration, its feed-back regulation, respiratory types, symptoms and functional respiratory diseases . 9. Kinetotherapy and recovery in pacients with persistent asthma and bronchiectasis (balneo-fizio-aerosolo-speleotherapy). 10. Kinetotherapy and recovery in pacients with chronic obstructive, restrictive, mixed pulmonary disease and, with or without cronic respiratory failure. 11. Kinetotherapy and recovery in patients before and after thoracic and abdominal surgery. 12. Stages of kinetotherapy sessions: relaxation, facilitative posturing, corective gymnastics, respiratory gymnastics. 13. Stages of kinetotherapy sessions : training on controled effort cough education, speech education. 14. Ocupational therapy, aerosolotherapy, speleotherapy, balneo-fiziotherapy for patients with chronic pulmonary disease. | **Discussions, study case presentations, practical demonstrations, practical applications** | **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours**  **2hours** |
| **Bibliography**  **mandatory**  1. Zdrenghea Dumitru, Branea Ioan: „Recuperarea bolnavilor cardiovasculari“, Editura Clusium, 1995  2. Sbenghe T.: Recuperarea medicala a bolnavilor respiratori, Ed. Medicală, Bucureşti, 1983.  3. Sbenghe T.: Recuperarea medicală la domiciliul bolnavului, Ed. Medicală, Bucureşti, 1996.  **selective**  1. Sbenghe Tudor: „Recuperarea medicală la domiciliul bolnavului“, Ed. Medicală, Bucureşti, 1996  2. Carp Costin şi colaboratorii: Tratat de cardiologie (vol.1+2), Ed. Medicală Naţională, Bucureşti, 2003 | | |

1. **Correlation of the discipline contents with the expectations of the epistemic community, professional associations, and representative employers from the afferent program field**

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| Knowledge and abilities are established as didactic objectives and specified as such in the analytic programs that are revised yearly. After their analysis by the study discipline staff, these are discussed and approved in the Curricular Committee, towards curricular harmonization among the various study disciplines. Along this entire process systematic evaluation is performed, directly if possible, regarding the correspondence of the contents to the expectations of the academic community and of the representatives of the social community, professional associations, and employers. |

1. **Evaluation**

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| **10.1. Activity type** | **10.2. Evaluation criteria** | **10.3. Evaluation method** | **10.3 Percentage of the final grade** |
| **10.4 Lecture** | **Lecture subjects** | **Written exam (single choice questions)** | **50%** |
| **10.5** | **Laboratory subjects** | **Practical activity**  **Semester tests** | **40%**  **10%** |
| **10.6 Minimal standards** | | | |
| **The minimum condition for being promoted:**  **Application of adequate scores for initial evaluation of cardiorespiratory functional deficit, improvement of quality of life and evaluation of acquired socio-professional independence after therapy.** | | | |

**Completition date, Course holder signature,**

20. 01.2017 Lecturer Cojocaru Clementina

**Department approval date, Head of the Departament Signature**

30. 01.2017 Lecturer Matei Daniela Viorelia, Ph-D